

## LISTING OF CLAIMS

This listing of claims replaces all prior versions and listings of claims in the application.

1. (Currently Amended) Method for operating a magnetohydrodynamic pump ~~[[ (5) ]]~~ for a liquid-metal anode ~~[[ (1) ]]~~ of an X-ray source, wherein ~~[[ it ]]~~ the magnetohydrodynamic pump is configured to be operated in at least two modes, the method comprising:  
wherein the in a first mode is a thawing mode, in which the melting liquid metal ~~[[ (2) ]]~~ is melted in a line ~~[[ (3) ]]~~ of the liquid-metal anode ~~[[ (1) ]]~~; and  
in a ~~[[ the ]]~~ second mode is an operating mode, in which the pumping the liquid metal ~~(2)~~ is pumped through the line ~~[[ (3) ]]~~ and producing X-ray beams are produced,  
characterized in that wherein in the first thawing mode, the engine of the pump ~~[[ (5) ]]~~ is constantly switched on and off in turn.
2. (Currently Amended) Method according to claim 1, ~~characterized in that wherein,~~ in the thawing mode, a sensor records whether the liquid state of the liquid metal ~~[[ (2) ]]~~ has been reached.
3. (Currently Amended) Method according to claim 1, ~~characterized in that further comprising there is~~ a third, start-up mode between the first thawing mode and the second operating mode, in which the rotation speed of the pump ~~[[ (5) ]]~~ is increased.
4. (Currently Amended) Method according to claim 3, ~~characterized in that wherein the~~ rotation speed of the pump ~~[[ (5) ]]~~ is increased until the liquid metal ~~[[ (2) ]]~~ displays its normal flow rate.
5. (Currently Amended) Method according to claim 1, ~~characterized in that further comprising,~~ after the operating mode, ~~there is~~ a fourth, run-down mode in which the rotation speed of the pump ~~[[ (5) ]]~~ is reduced stepwise after X-ray beams have been produced.
6. (Currently Amended) Method according to claim 5, ~~characterized in that wherein the~~ stepwise reduction of the rotation speed of the pump ~~(5) does not take place until the occurs~~

when a temperature of ~~[[the]]~~ a region of focus ~~[[4]]~~ falls below a predeterminable predetermined threshold value.

7. (Currently Amended) Method according to claim 6, ~~characterized in that~~ wherein the predetermined threshold value is 50°C above the melting point of the liquid metal ~~[[2]]~~.

8. (Currently Amended) ~~Liquid-metal~~ A liquid-metal anode ~~[[1]]~~ for an X-ray source with a liquid metal ~~[[2]]~~ which is located in a line ~~[[3]]~~, the liquid-metal anode comprising:

~~wherein an anode module (15) is inserted into the line [[3]] in [[the]] a region of focus [[4]],~~ with a pump ~~[[5]]~~ for circulating the liquid metal ~~[[2]]~~ in the line ~~[[3]]~~ and with a cooling system ~~[[6]]~~ for the liquid metal ~~[[2]]~~; and

~~characterized in that an electron window (8) is inserted into the anode module [[15]],~~  
[[and]]

wherein the pump ~~(5) can~~ is configured to be operated as a magnetohydrodynamic pump ~~[[5]]~~ by a method according to the method of claim 1 ~~one of the previous claims.~~

9. (Currently Amended) Liquid-metal anode ~~[[1]]~~ according to claim 8, ~~characterized in that~~ wherein a Bi alloy, in particular BiPb or BiPbInSn, is used as liquid metal ~~[[2]]~~.

10. (Currently Amended) Liquid-metal anode ~~[[1]]~~ according to claim 9, ~~characterized in that~~ wherein the percentage by weight of Bi in the BiPb alloy is between 50 and 60 wt.%, in particular 55.5 wt.%, and the remainder is Pb.

11. (Currently Amended) Liquid-metal anode ~~[[1]]~~ according to claim 9, ~~characterized in that~~ wherein the BiPb alloy contains 49.4 wt.% Bi, 18.8 wt.% Pb, 21.0 wt.% In and 11.6 wt.% Sn.

12. (Currently Amended) Liquid-metal anode ~~[[1]]~~ according to claim 8, ~~characterized in that~~ wherein the line ~~[[3]]~~ is made of molybdenum.

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13. (Currently Amended) Liquid-metal anode [(1)] according to claim 8, ~~characterized in that~~ wherein the anode module [(15)] is made completely of molybdenum into which an electron window [(8)] is inserted which consists of light-permeable cubic boron nitride.

14. (Currently Amended) Liquid-metal anode [(1)] according to claim 8, ~~characterized in that~~ wherein the electron window (8) is 10 - 80µm, in particular 40µm, thick.

15. (Currently Amended) Liquid-metal anode [(1)] according to claim 8, ~~characterized in that~~ wherein the cooling system [(6)] is a minichannel cross-flow heat exchanger.

16. (Cancelled)